

IN THE CLAIMS

1. (Currently amended) A method, for use in a virus-free certificate authority (102), of generating a virus-free certificate (200) certifying that a file is virus-free comprising the steps of:

- receiving (300) a virus-free certificate request for a file from a server (101) or a client (100) system, said virus-free certificate request comprising the file for which the virus-free certificate is requested;
- determining (304) whether a virus-free certificate is integrated in the file;

If no virus-free certificate is integrated in the file:

- determining (305) whether the file is virus-free or not;

if the file is declared virus-free by the virus-free certificate authority (102):

- generating (313, 314) a virus-free certificate (200) comprising a file signature (207) for certifying that said file is declared virus-free by the virus-free certificate authority (102);
- integrating (316) the generated virus-free certificate (200) in the file;
- sending (316) back in response to the virus-free certificate request the file with the integrated virus-free certificate (200).

2. (Previously presented) The method according to claim 1 wherein the virus-free certificate request comprises:

- a list of one or a plurality of anti-virus programs to execute on the file to determine whether the file is virus-free or not.

3. (Previously presented) The method according to claim 1 wherein said file comprised in the virus-free certificate request comprises:

- an integrated virus-free certificate.

4. (Currently amended) The method according to claim 1 comprising the further steps of:

If the file comprises an integrated virus-free certificate:

- determining ~~(302, 303)~~ whether the virus-free certificate integrated in the file has been previously generated by the virus-free certificate authority.

If the virus-free certificate integrated in the file has been previously generated by the virus-free certificate authority:

- updating ~~(304)~~ the virus-free certificate.

If the virus-free certificate integrated in the file has not been previously generated by the virus-free certificate authority:

- generating ~~(313, 314)~~ a new virus-free certificate.

5. (Currently amended) The method according to claim 1 wherein said file further comprises:

- a file header comprising:
- a non encrypted file signature ~~(501)~~;
- a file length ~~(502)~~;
- a product name ~~(503)~~.

6. (Currently amended) The method according to claim 1 wherein said step of integrating ~~(316)~~ the virus-free certificate ~~(200)~~ in the file comprises the further steps of:

- appending ~~(506)~~ the virus-free certificate to the file;
- modifying a file header, preferably:
- a non encrypted file signature ~~(501)~~;
- a file length ~~(502)~~;

- a product name ~~(503)~~, said product name comprising means for identifying the integrated virus-free certificate.

7. (Currently amended) The method according to claim 1 wherein said step of determining whether the file is virus-free or not comprises the further step of:

- executing ~~(301)~~ one or a plurality of anti-virus programs on said file for detecting viruses.

8. (Currently amended) The method according to claim 1 wherein the virus-free certificate further comprises:

- a list of the one or plurality of anti-virus programs ~~(208)~~ that have been executed on the file.

9. (Currently amended) The method according to claim 1 wherein the virus-free certificate ~~(200)~~ further comprises:

- a file identification ~~(204)~~;
- a virus-free certificate authority identification ~~(202)~~;
- a public key ~~(203)~~ for decrypting the file signature;
- a certificate signature ~~(206)~~ for authenticating the virus-free certificate.

10. (Currently amended) The method according to claim 1 comprising the further steps ~~(305)~~ of:

- identifying the server ~~(101)~~ or client ~~(100)~~ system where the file comprising the integrated virus-free certificate is stored;
- updating the file with the integrated virus-free certificate.

11. (Currently amended) The method according to claim 1 wherein the step of generating ~~(303, 304)~~ a file signature ~~(207)~~ comprises the further steps of:

- hashing the file to generate a file digest;
- encrypting the file digest using a private key.

12. (Currently amended) A system implementing a virus-free certificate authority ~~(102)~~, said system comprising a processor that executes a program for implementing a method ~~having comprising the steps of:~~

- receiving ~~(300)~~ a virus-free certificate request for a file from a server ~~(101)~~ or a client ~~(100)~~ system, said virus-free certificate request comprising the file for which the virus-free certificate is requested;
- determining ~~(301)~~ whether a virus-free certificate is integrated in the file;
If no virus-free certificate is integrated in the file:
 - determining ~~(305)~~ whether the file is virus-free or not;
- if the file is declared virus-free by the virus-free certificate authority ~~(102)~~:
 - generating ~~(313, 314)~~ a virus-free certificate ~~(200)~~ comprising a file signature ~~(207)~~ for certifying that said file is declared virus-free by the virus-free certificate authority ~~(102)~~;
 - integrating ~~(316)~~ the generated virus-free certificate ~~(200)~~ in the file;
- sending ~~(316)~~ back in response to the virus-free certificate request the file with the integrated virus-free certificate ~~(200)~~.

13. (Currently amended) A computer program recorded on a computer-readable medium and comprising instructions executing a method ~~having comprising the steps of:~~

- receiving ~~(300)~~ a virus-free certificate request for a file from a server ~~(101)~~ or a client ~~(100)~~ system, said virus-free certificate request comprising the file for which the virus-free certificate is requested;
- determining ~~(301)~~ whether a virus-free certificate is integrated in the file;
If no virus-free certificate is integrated in the file:

- determining ~~(305)~~ whether the file is virus-free or not;
if the file is declared virus-free by the virus-free certificate authority ~~(102)~~;
- generating ~~(313, 314)~~ a virus-free certificate ~~(200)~~ comprising a file signature ~~(207)~~ for certifying that said file is declared virus-free by the virus-free certificate authority ~~(102)~~;
- integrating ~~(316)~~ the generated virus-free certificate ~~(200)~~ in the file;
sending ~~(316)~~ back in response to the virus-free certificate request the file with the integrated virus-free certificate ~~(200)~~.

14. (Currently amended) A method, for use in a server ~~(101)~~ or client ~~(100)~~ system, of determining that a file is virus-free comprising the steps of:

- determining ~~(401)~~ whether a virus-free certificate ~~(200)~~ is integrated within a file;
if a virus-free certificate is integrated within the file:
- authenticating ~~(415)~~ the virus-free certificate ~~(200)~~, said virus-free certificate comprising a certificate signature ~~(206)~~;
- authenticating ~~(407)~~ the file, said virus-free certificate ~~(200)~~ comprising a file signature ~~(207)~~, said file signature certifying that said file has been declared virus-free by a virus-free certificate authority ~~(102)~~.

15. (Currently amended) The method according claim 14 wherein said step of authenticating ~~(407)~~ the file comprises the further steps of:

- decrypting the file signature ~~(207)~~ using a public key ~~(203)~~ comprised in the virus-free certificate ~~(200)~~.
- hashing the file to generate a file digest;
- comparing the decrypted file signature with the generated file digest.

16. (Previously presented) The method according to claim 14 wherein the step of authenticating the virus-free certificate comprises the further step of:

- validating the virus-free certificate.

17. (Currently amended) The method according to claim 16 wherein the step of validating the virus-free certificate comprises the further step of:

- determining whether the virus-free certificate is valid or not;

If the virus-free certificate is not valid:

- requesting a virus-free certificate update or an updated virus-free certificate update to a virus-free certificate authority-(102).

18. (Currently amended) The method according to claim 14 wherein the virus-free certificate-(200) further comprises:

- a file identification-(201);
- a virus-free certificate authority identification-(202);
- a public key-(203) for decrypting the file signature;

19. (Currently amended) The method according to claim 14 wherein said file further comprises:

- a file header comprising:
- a non encrypted file signature-(501) for signing the file;
- a file length-(502);
- a product name-(503), said product name comprising means for identifying the integrated virus-free certificate.

20. (Currently amended) The method according to claim 14 wherein the step of determining-(401) whether a virus-free certificate-(200) is integrated within a file comprises the further step of:

- determining whether a product name-~~(503)~~ within a file header comprises means for identifying the integrated virus-free certificate or not.

21. (Currently amended) A system having a processor that determines that a file is virus-free, said processor executing a program for implementing a method having steps of:

- determining-~~(401)~~ whether a virus-free certificate-~~(200)~~ is integrated within a file;

if a virus-free certificate is integrated within the file:

- authenticating-~~(415)~~ the virus-free certificate-~~(200)~~, said virus-free certificate comprising a certificate signature-~~(206)~~;
authenticating-~~(407)~~ the file, said virus-free certificate-~~(200)~~ comprising a file signature-~~(207)~~, said file signature certifying that said file has been declared virus-free by a virus-free certificate authority-~~(102)~~.

22. (Currently amended) A computer program recorded on a computer-readable medium and comprising instructions executing a method having steps of:

- determining-~~(401)~~ whether a virus-free certificate-~~(200)~~ is integrated within a file;

if a virus-free certificate is integrated within the file:

- authenticating-~~(415)~~ the virus-free certificate-~~(200)~~, said virus-free certificate comprising a certificate signature-~~(206)~~;
authenticating-~~(407)~~ the file, said virus-free certificate-~~(200)~~ comprising a file signature-~~(207)~~, said file signature certifying that said file has been declared virus-free by a virus-free certificate authority-~~(102)~~.